

# SSDNs in RETDAT and FTPMAN

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An SSDN includes a node number and channel number. It also includes a 4-bit offset flag, a 4-bit ident size, and an 8-bit listype number. If it is used with RETDAT, it can address the reading field of the ADATA system table that is part of the data pool.

When FTPMAN is used, a request includes the same SSDN that is associated with the Reading property of the given device. But in this case, a waveform is sought, rather than merely a single reading value. The basic scheme employed to find the waveform is to search the CINFO system table for an entry that includes the given channel number, where other information can be found related to the waveform, such as where it is located in memory and a pointer to the registers of its hardware interface. So, for a given SSDN, RETDAT accesses a single reading, but FTPMAN accesses a waveform.

But a RETDAT requester may want to access selected values from the digitized waveform, using the offset word that is part of the RETDAT protocol. In this case, there is an ambiguity, especially if the offset is zero. A zero offset implies access to the ADATA entry's reading field. A nonzero offset could mean access to the next channel number, but that would imply use of different scaling constants, etc. So it is more likely that a nonzero offset should mean access to values of the waveform. The meaning of the offset word is a byte offset from the beginning of the array that represents the waveform. To access the first value value in the waveform alone cannot work, since it will appear to RETDAT as a request for the Reading field of the ADATA entry. There is no FTPMAN-specific SSDN for a device; FTPMAN receives the same SSDN that is used for RETDAT requests for the reading property.

The ambiguity arises because of the desire to use a single device name for both reading value and waveform access. If one used different device names, one would have independent SSDNs for use with RETDAT and FTPMAN. Another solution to the problem would be to add a new plot (or waveform) property to the central database. The FTPMAN client would use the SSDN associated with this new property, whereas RETDAT would use the reading property.